

Please replace previously filed Figures 6, 9 and 10 with the attached Figures 6, 9, and 10. The changes between the new and existing figures are indicated in red on an attached second set of the Figures.

REMARKS

Claims 1-3, 8-10, 15-17 and 20 were examined in the May 22, 2002, Office Action. Claims 1-3, 8-10, and 15-17 stand rejected as being allegedly unpatentable, while claim 20 is objected to but deemed allowable if rewritten in independent form.

Election of Species

The Office Action on page 2 asserts that "Claims 1, 4-7, 11-14, 18-19 have been withdrawn from further consideration pursuant to 37 C.F.R. 1.142(b), as being drawn to a nonelected species...." The undersigned believes that claim 1 was errantly listed here as claim 1 was specifically identified as examined on page 1 of the Office Action and is specifically discussed in the remarks of the Office Action.

The Drawings

The drawings were objected to under 37 C.F.R. 1.83(a) for allegedly failing to show "every feature of the invention specified in the claims...the fluid source and the hub disposed about the first elongate shaft proximate the proximal end thereof must be shown or the feature(s) canceled from the claim(s)."

In response the undersigned submits that at least Fig. 2 shows these recited features. As can be seen in Fig. 2 of the application a hub 164 and a fluid source 34 are both disposed about the shaft 126.

The Office Action also objected to the drawings under 37 C.F.R. 1.84(p)(4) alleging that numerals 154, 155, 790, 954, and 955 were unclear for various recited reasons. In response the undersigned submits that numeral 154 indicates an inner surface as shown in figure 3 while numeral 155 indicates the face of the housing 150. The paragraph at the end of page eleven in the specification has been amended to clarify that numeral 155 is the face of the housing 150 and not 154. With regard to numeral 790, the last paragraph on page 20

has been amended to now recite that the proximal portion is correctly numbered 791. Lastly, with regard to numeral 954 on Figure 10, a proposed drawing amendment is hereto attached changing this numeral to 955.

The drawings stand further rejected pursuant to 37 C.F.R. 1.84(p)(5) because reference numerals 438 and 230 were missing from the drawings. As amended, Figure 6 now clearly recites numeral 438 and amended Figure 10 now clearly recites numeral 930, thus, these objections have been rendered moot.

The Specification

The disclosure is objected to for “applicant has not disclosed the patent number or serial of the disclosed related applications in the first paragraph.” In response the undersigned submits that this paragraph has been removed rendering the objection moot. The related applications, for the Examiner’s information, are as follows.

Tortuose Path Injection Device and Method - filed August 8, 2000 - s/n 09/634,117

Controlled Depth Injection Device and Method - filed August 8, 2000 - s/n 09/633,924

An information disclosure statement identifying these applications is also being filed herewith.

35 USC 102

As identified above, claims 1-3 stand rejected as being allegedly anticipated by U.S. patent 5,261,889 (“Laine”). Claims 1-3 and 8-10 also stand rejected as being allegedly anticipated by WO 99/44656 (“Rosengart”), and claims 1-3, 8-10 and 15-17 also stand rejected as being allegedly anticipated by U.S. patent no. 5,486,161 (“Lax”).

1. Laine does not anticipate claims 1-3.

Laine is entitled “Injection Therapy Catheter” and regards “[a] catheter for use with an endoscope.” Abstract. The undersigned submits that claim 1 is patentable over Laine at least because Laine does not disclose or suggest an interstitial member wherein “the inner surface of the interstitial member [is] shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the interstitial member and the distal end of the interstitial member” as recited in the claim. Regarding the inner sheath 20 of Fig. 4 in

Laine, the undersigned submits that nowhere in Laine is there a teaching that this sheath should engage only a portion of the outer surface of the shaft 25. Rather, the cross-section of Fig. 4 simply shows the sheath engaging the entire outer surface of the shaft along its entire length. This is different than the recited language which recites that only a portion of the outer surface of the shaft is engaged between the distal and proximal end of the interstitial member.

For at least this reason, the undersigned submits that claims 1-3 are patentable over Laine.

2. Rosengart does not anticipate claims 1-3 and 8-10.

Rosengart is entitled “Minimally Invasive Gene Therapy Delivery Device And Method,” and regards a device and method for delivering a therapeutic substance. Abstract. The undersigned submits that claims 1 and 8 as well as their dependent claims are patentable over Rosengart at least because Rosengart fails to disclose or suggest “the inner surface of the interstitial member shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the interstitial member and the distal end of the interstitial member” as recited in the claims. The platten 76 of Rosengart is described as cylindrical, thus it is not shaped to engage only a portion of the outer surface of the shaft 60 as recited in the claims. At least based on this distinction the undersigned submits that claims 1, 8 and their dependent claims, are all patentable over Rosengart.

3. Lax does not anticipate claims 1-3, 8-10 and 15-17.

Lax is entitled “Medical Probe Device And Method,” and regards “[a] medical ablation device.” Abstract. Consistent with the above discussion the undersigned submits that Lax does not disclose or suggest an “interstitial member shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the interstitial member and the distal end of the interstitial member.” For at least this reason claims 1-3, 8-10, and 15-17 are patentable over Lax.

Claim 20

Claim 20 has been rewritten in independent form and is deemed to be in condition for allowance pursuant to the Office Action.

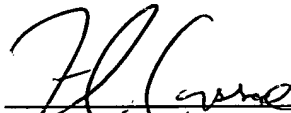
CONCLUSION

The undersigned requests reconsideration in light of the comments provided above.

Should the Examiner have any questions regarding this paper or the application itself, the Examiner is invited to contact the undersigned at 202-220-4311.

Attached hereto is a paper entitled "Version With Markings To Show Changes Made."

Respectfully submitted,



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Version With Markings To Show Changes Made

IN THE SPECIFICATION

Replace the last paragraph on page 10, beginning at line 16 and continuing onto page 11 ending at line 2, with the following paragraph.

Second elongate shaft 126 has an outer surface 138, distal end 136, and a proximal end 146. In many applications it is desirable to advance distal end 136 of second elongate shaft 126 by a known distance relative to distal end 134 of first elongate shaft 124. In the embodiment of figure 1, a slider 142 is fixed to second elongate shaft 126 proximate proximal end 146 thereof. In the embodiment of figure 1, a portion of slider 142 is disposed with a cavity 148 defined by a housing 150. In a presently preferred embodiment, housing 150 is fixed to first elongate shaft 124 proximate proximal end 144 thereof. Also in a preferred embodiment, a plurality of indicia 152 are disposed on a face 154~~5~~ of housing 150 proximate slider 142.

Replace the last paragraph on page 20, beginning on line 18 and continuing onto page 21 ending at line 5, with the following paragraph.

Figure 9 is a cross sectional view of a distal portion 782 of a catheter 720 in accordance with the present invention. Catheter 720 comprises a first elongate shaft 724 having an inner surface 754 defining a lumen 732. A ferrule 784 is disposed within lumen 732 proximate a distal end 734 of first elongate shaft 724. In a preferred embodiment, ferrule 784 is fixed to first elongate shaft 724. A needle 786 is slidably disposed within a ferrule lumen 794 defined by ferrule 784. A piston member 788 is disposed about a proximal portion 790~~1~~ of needle 786. Piston member 788 forms a sliding seal with inner surface 754 of first elongate shaft 724. A spring 792 is disposed within lumen 732 of first elongate shaft 724. In the embodiment of figure 9, the distal end of spring 792 is seated against ferrule 784 and the proximal end of spring 792 is seated against piston member 788.

Replace the first full paragraph on page 22, beginning on line 3 with the following paragraph.

Figure 10 is a plan view of a catheter 920 in accordance with the present invention. Catheter 920 includes a distal end 930, a proximal end 940, and a shaft assembly 922. Shaft assembly 922 comprises a first elongate shaft 924 having a distal end 934, a proximal end 944, and an inner surface 954 defining a lumen 932. Shaft assembly 922 also includes a second elongate shaft 926 slidably disposed within lumen 932 of first elongate shaft 924, which may function as the interstitial members described above. A third elongate shaft 970 is slidably disposed within a lumen defined by second elongate shaft 926. In the embodiment of figure 10, a proximal portion 945 of second elongate shaft 926 extends beyond proximal end 944 of first elongate shaft 924. Proximal portion 945 of second elongate shaft 926 terminates with a proximal end 946. Also in the embodiment of figure 10, a slider 942 is fixed to second elongate shaft 926 proximate proximal end 946 thereof. A portion of slider 942 is disposed within a cavity 948 defined by a housing 950. In a presently preferred embodiment, housing 950 is fixed to first elongate shaft 924 proximate proximal end 944 thereof. Also in a preferred embodiment, a plurality of indicia 952 are disposed on a face 9545 of housing 950 proximate slider 942.

IN THE CLAIMS:

1. (Once Amended) A catheter shaft assembly, comprising:

a first elongate shaft having an inner surface defining a lumen;

a second elongate shaft having an outer surface,

the second elongate shaft slidably disposed within the lumen of the first elongate shaft; and

~~at least one~~ interstitial member disposed between the inner surface of the first elongate shaft and the outer surface of the second elongate shaft,

the interstitial member having a proximal end, a distal end, an inner surface, and an outer surface,

the inner surface of the interstitial member facing the outer surface of the second elongate shaft and

the inner surface of the interstitial member shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the

interstitial member and the distal end of the interstitial member.

8. (Once Amended) A catheter, comprising:

a first elongate shaft having an inner surface defining a lumen;

a second elongate shaft having an outer surface,

the second elongate shaft slidably disposed within the lumen of the first elongate shaft;

~~at least one~~ interstitial member disposed between the inner surface of the first elongate shaft and the outer surface of the second elongate shaft the interstitial member having a proximal end, a distal end, an inner surface, and an outer surface,

the inner surface of the interstitial member facing the outer surface of the second elongate shaft and

the inner surface of the interstitial member shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the interstitial member and the distal end of the interstitial member;

a hub ~~housing disposed about~~ coupled to the first elongate shaft proximate the proximal end thereof;

a slider disposed about the second elongate shaft proximate a proximal portion thereof; and

wherein the slider is disposed within a chamber defined by the hub.

15. (Once Amended) A catheter shaft assembly, comprising:

a first elongate shaft having an inner surface defining a lumen;

a second elongate shaft having an outer surface,

the second elongate shaft slidably disposed within the lumen of the first elongate shaft;

~~at least one~~ interstitial member disposed between the inner surface of the first elongate shaft and the outer surface of the second elongate shaft

the interstitial member having a proximal end, a distal end, an inner surface, and an outer surface,

the inner surface of the interstitial member facing the outer surface of the

second elongate shaft and

the inner surface of the interstitial member shaped to engage only a portion of the outer surface of the second elongate shaft between the proximal end of the interstitial member and the distal end of the interstitial member;

a ~~hub~~ housing disposed about the first elongate shaft proximate the proximal end thereof;

a slider disposed about the second elongate shaft proximate a proximal portion thereof;

wherein the slider is disposed within a chamber defined by the ~~hub~~ housing;

a plurality of indicia disposed upon a surface of the ~~hub~~ housing proximate the slider;

the second elongate shaft forming a point at the distal end thereof;

the second elongate shaft defining an injection port proximate the point thereof;

the second elongate shaft defining an injection lumen in fluid communication with the injection port;

the injection lumen being in fluid communication with a fluid source; and

wherein the fluid source is capable of injection fluid into the injection lumen of the second elongate shaft.

20. (Once Amended) ~~A~~ The catheter of claim 15, shaft assembly, comprising:

a first elongate shaft having an inner surface defining a lumen;

a second elongate shaft slidably disposed within the lumen of the first elongate shaft;

at least one interstitial member disposed between the inner surface of the first elongate shaft and the outer surface of the second elongate shaft, wherein the at least one interstitial member comprises a radial rib extending beyond the inner surface of the first elongate shaft;

a housing disposed about the first elongate shaft proximate the proximal end thereof;

a slider disposed about the second elongate shaft proximate a proximal portion thereof;

wherein the slider is disposed within a chamber defined by the housing;

a plurality of indicia disposed upon a surface of the housing proximate the slider;

the second elongate shaft forming a point at the distal end thereof;

the second elongate shaft defining an injection port proximate the point thereof;

the second elongate shaft defining an injection lumen in fluid communication with the injection port;

the injection lumen being in fluid communication with a fluid source; and
wherein the fluid source is capable of injection fluid into the injection lumen of the second
elongate shaft.